

## *Citheronia sepulcralis* (Pine Devil)

### Priority 2 Species of Greatest Conservation Need (SGCN)

**Class:** *Insecta* (Insects)

**Order:** *Lepidoptera* (Butterflies, Skippers, And Moths)

**Family:** *Saturniidae* (Emperor, Atlas, Moon And Silk Moths)

#### General comments:

No modern EOs; extirpated from most of northeast in mid 20th century, primarily from DDT and Compsilura introductions; requires extensive tracts of hard pines; Schweitzer feels could still be found in Maine's larger PPSO barrens, but more likely not; surveys insufficient to consider extirpated

#### Species Conservation Range Maps for Pine Devil:

Town Map: [Citheronia sepulcralis Towns.pdf](#)

Subwatershed Map: [Citheronia sepulcralis\\_HUC12.pdf](#)

#### SGCN Priority Ranking - Designation Criteria:

**Risk of Extirpation:** NA

**State Special Concern or NMFS Species of Concern:**

*Citheronia sepulcralis* is listed as a species of Special Concern in Maine.

**Recent Significant Declines:** NA

**Regional Endemic:** NA

**High Regional Conservation Priority:** NA

**High Climate Change Vulnerability:** NA

**Understudied rare taxa:** NA

**Historical:**

Species currently listed as state (SH) or global (GH) historical (by MDIFW or NatureServe) that have some reasonable probability of rediscovery with further survey effort.

State Rank: SH, Global Rank: G4G5, Rounded Global Rank: G4, MDIFW Historical: Yes

**Culturally Significant:** NA

#### Habitats Assigned to Pine Devil:

##### Formation Name      Northeastern Upland Forest

Macrogroup Name      Central Oak-Pine

**Habitat System Name:** Central Appalachian Dry Oak-Pine Forest    **Notes:** *potential; requires extensive tracts of hard pines*

**Habitat System Name:** Northeastern Interior Pine Barrens    **\*\*Primary Habitat\*\***    **Notes:** *requires extensive tracts of hard pines*

#### Stressors Assigned to Pine Devil:

Stressor Priority Level based on Severity and Actionability	Moderate Severity		High Severity	
	Highly Actionable		Medium-High	
	Moderately Actionable		Medium	
	Actionable with Difficulty		Low	

##### IUCN Level 1 Threat      Natural Systems Modifications

**IUCN Level 2 Threat:**      Fire and Fire Suppression

**Severity:** Severe

**Actionability:** Moderately actionable

**Notes:** Pine barren habitat is fire dependent - fire suppression can alter successional stage and habitat availability over time; fire can cause direct mortality

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IUCN Level 1 Threat	Other Options
<b>IUCN Level 2 Threat:</b> Lack of knowledge	
<b>Severity:</b> Moderate Severity	<b>Actionability:</b> Highly actionable
<b>Notes:</b> No modern EOs - possibly extirpated; lack of comprehensive survey effort to identify occurrences and determine species status	
IUCN Level 1 Threat	Pollution
<b>IUCN Level 2 Threat:</b> Agricultural and Forestry Effluents	
<b>Severity:</b> Moderate Severity	<b>Actionability:</b> Highly actionable
<b>Notes:</b> Was extirpated from most of Northeast in mid 20th century primarily from DDT and Compsilura introductions; nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME;	
IUCN Level 1 Threat	Residential and Commercial Development
<b>IUCN Level 2 Threat:</b> Housing and Urban Areas	
<b>Severity:</b> Severe	<b>Actionability:</b> Moderately actionable
<b>Notes:</b> Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME	
IUCN Level 1 Threat	Agriculture and Aquaculture
<b>IUCN Level 2 Threat:</b> Annual and Perennial Non-timber crops	
<b>Severity:</b> Moderate Severity	<b>Actionability:</b> Moderately actionable
<b>Notes:</b> Some barren habitat is being converted to intensive blueberry production	
IUCN Level 1 Threat	Energy Production and Mining
<b>IUCN Level 2 Threat:</b> Mining and Quarrying	
<b>Severity:</b> Moderate Severity	<b>Actionability:</b> Moderately actionable
<b>Notes:</b> Habitat loss (e.g., sand and gravel extraction)	
IUCN Level 1 Threat	Residential and Commercial Development
<b>IUCN Level 2 Threat:</b> Commercial and Industrial Areas	
<b>Severity:</b> Moderate Severity	<b>Actionability:</b> Moderately actionable
<b>Notes:</b> Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME	
IUCN Level 1 Threat	Transportation and Service Corridors
<b>IUCN Level 2 Threat:</b> Roads and Railroads	
<b>Severity:</b> Moderate Severity	<b>Actionability:</b> Moderately actionable
<b>Notes:</b> Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME	
IUCN Level 1 Threat	Invasive and Other Problematic Species, Genes and Diseases
<b>IUCN Level 2 Threat:</b> Invasive Non-native-Alien Species-Diseases	
<b>Severity:</b> Severe	<b>Actionability:</b> Actionable with difficulty
<b>Notes:</b> Extirpated from most of Northeast in mid 20th century primarily from DDT and Compsilura introductions	

### Species Level Conservation Actions Assigned to Pine Devil:

None. *Only species specific conservation actions that address high (red) or medium-high (orange) priority stressors are summarized here.*

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#### Conservation Actions Associated with the Dry Barrens Lepidoptera Guild:

<b>Conservation Action</b>	<b>Category:</b> Species Management	<b>Biological Priority:</b> critical	<b>Type:</b> new
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Prepare occurrence maps and pesticide spray consultation guidelines for rare Lepidoptera and distribute to strategic partners including Maine Bureau of Pesticides Control.

#### Stressor(s) Addressed By This Conservation Action

Agricultural and Forestry Effluents

<b>Conservation Action</b>	<b>Category:</b> Habitat Management	<b>Biological Priority:</b> critical	<b>Type:</b> new
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Conduct a statewide review of potential high quality barrens habitat that is threatened by succession and identify strategic habitat restoration actions for implementation by key conservation partners.

#### Stressor(s) Addressed By This Conservation Action

Fire and Fire Suppression

#### Broad Taxonomic Group Conservation Actions:

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-1.

#### Habitat Based Conservation Actions:

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-15. Click on the Habitat Grouping of interest to launch a habitat based report summarizing relevant conservation actions and associated SGCN.

*The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, stressors, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.*